

Summer 2005



# Natural News

A Publication of The U.S. Environmental Protection Agency, Region 8 Ecosystem Protection Program



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## FOCUS ON WETLANDS

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*Collecting data at Sombrero Marsh*

*~Photo by Alyson Duffey*

### History of Sombrero Marsh Restoration

**~ Dr. Oakleigh Thorne, II, Thorne Ecological Institute**

Sombrero Marsh is the only shallow-water salt marsh of its kind in Boulder County, Colorado. It is technically a “playa,” scooped out of the original Pierre Shale by the wind about 20,000 to 30,000 years ago. It has no inflow or outflow, so it is filled by runoff from rain or snow and ground water. During drought years, it dries up completely, until a major snowstorm or rain fills it again, only to a depth of about 18 inches. The salt comes from the Pierre Shale in the form of magnesium sulfate. One of the

common salt marsh plants is a special kind of bulrush. The Marsh is a stopover for numerous types of migrating waterfowl.

For many years, the east end of Sombrero Marsh was used as a landfill, so about one third of the original Marsh was filled in by humans. In the mid-1970s, Eric Miller, a middle school science teacher, stopped this landfill activity. He approached the Boulder Valley School Board and Administration, the owners of the Marsh, and convinced them that this was a valuable wetland that needed to be protected.

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*Students at Sombrero Marsh*

*~Photo by Alyson Duffey*

In the late 1990s, Thorne Ecological Institute spearheaded the formation of a partnership among itself, the City of Boulder Open Space and Mountain Parks Department (OSMP), and the Boulder Valley School District (BVSD). The result was that the City bought Sombrero Marsh from BVSD, except for one acre. Using the funds from this sale, plus funds from Great Outdoors Colorado (GOCO) and the Brett Family Foundation, BVSD built the Sombrero Marsh Environmental Education Center building in 2001 on the one acre that was attached to BVSD property. This Center houses the Thorne Ecological Institute offices. Thorne earns its rent by providing environmental education classes for BVSD. We believe this is the first time ever that a city, a school district, and a nonprofit organization have created a formal partnership to accomplish important environmental goals.

The City of Boulder's OSMP hauled away hundreds of loads of landfill debris, and planted native species, thus reclaiming and restoring many acres of the original Marsh. In 2002, the U.S. Environmental Protection Agency (EPA) declared Sombrero Marsh as a Five Star Restoration Site, a national recognition.

Over the past four years, many BVSD students enjoyed full-day field trips to the Sombrero Marsh Environmental Education Center, where they studied wild seeds, birds, various soils from the Marsh area, and water invertebrates. They have also taken water samples, made observations about clouds and weather conditions, and observed bird banding. These hands-on experiences help the students to be more connected to nature and to become environmentally-aware Earth stewards.

**About Thorne Ecological Institute.** Thorne offers hands-on natural science education to children, teens, and adults. The Thorne Natural Science School was established 48 years ago, and reaches over 500 students each summer through field-based classes for children. **Project BEAR** (Building Environmental Awareness and Respect) is the in-school program, reaching over 5000 students annually. Students include many inner-city minority children in northeast Denver and in Lafayette, often connecting them to nature for the first time in their lives. For more information go to: [www.thorne-eco.org](http://www.thorne-eco.org) or call **Jessica Feld** at: (303) 499-3647.

## **High Plains Environmental Center – A Case Study in Conserving and Enhancing Wetland Habitat**

**~ Patricia Waak, Executive Director**

The High Plains Environmental Center, founded in 2002, is a 501(c)(3) non-profit organization located at Centerra, an approximately 3,000-acre, mixed-use development located near the intersection of I-25 and U.S. Highway 34 in Loveland, Colorado.

The evolution of the High Plains Environmental Center is rather unique among nonprofits, since the impetus for its creation came from a developer.

Tom Hoyt, President of McStain Enterprises, championed the idea for the HPEC. The HPEC was established to steward and manage the 275 acres of lakes and wetlands long into the future, maintaining a focus on conservation and education. Chad and Troy McWhinney, developers of Centerra, also embraced the idea. The Loveland City Council was instrumental in ensuring the long-term success of this center, having approved the development agreements stipulating that some building permit revenues from the development would help fund the nonprofit.

The vision of these partners was to create a permanent, independent, non-profit environmental education center whose tasks would include: protecting the wetlands and uplands surrounding Houts Reservoir and Equalizer Reservoir; offering programs to the northern Colorado community; and supporting local developers, planners and other consultants with information regarding sustainable design.

The HPEC is a living laboratory created to explore the connections between sustainable living and ecological processes, to promote understanding of the interactions between the natural and built environments, to inspire stewardship, and to foster personal and community well-being. This is achieved through exhibits and interpretive nature trails, community outreach and educational programs, a resource library open to the public, and workshops and consultation to various groups on topics related to our mission.

Comprising approximately 275 acres, the Center includes the lakes, wetlands and upland habitat of the water bodies, Houts Reservoir and Equalizer Lake. The lakes attract a great diversity of waterfowl and migrating songbirds. Cormorants and great blue herons perch in old cottonwoods, western grebes travel the remnant sections

of old Greeley and Loveland Canal, and swallows feed in the uplands and wetlands.

The first challenge for the Center is to preserve and enhance the lakes and surrounding habitat in perpetuity. Over 80 species of birds have been identified as breeding, nesting and feeding on the lakes and the surrounding habitat.

Although the lakes have not yet received an Important Bird Area designation from National Audubon Society, we are accumulating the necessary data for submission. We believe that the reason Houts Reservoir and Equalizer Lake are strong migratory sites is that they have been relatively undisturbed for a number of years, unlike nearby Boyd Lake. Our challenge, both with the immediate Centerra development and other regional impacts, is to maintain the character and habitat of the area.

Our approach during our establishment, and as a functioning center, has not been to take the easy route in dealing with development versus wildlife concerns. We have implemented many self-imposed limitations that focus on reducing human/wildlife conflicts. For example, we do not allow boating, swimming or other water-based recreation on the lakes.

The Center faces the challenge of restoring a formerly agricultural system and converting it into an area that will support the needs of the flora and fauna, as well as limited recreational needs of the humans who come to live in the community. Included in our mandate is the removal of exotic plant species and reseeding with native plants, protection of wetland complexes, stabilization of the lake shorelines, maintenance of water quality and establishing baseline inventories of various wildlife species.

The whole development uses a system of detention ponds that filter runoff from houses and commercial areas and support wetland vegetation. Because the wetlands and lakes are fed by the City of Loveland runoff through an irrigation ditch, the Center works with The Big Thompson Water Forum to test the water quality on a monthly basis.

The scope of our efforts extends far beyond Centerra. The Center partners with the local municipalities of Loveland, Fort Collins and Greeley. Its programs are open to all of Northern Colorado. And the lessons learned from projects in science, community building

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and the relationship between environmental and economic concerns will be shared nationwide.

For more information, go to:

**<http://www.suburbitat.org>**

or contact **Pat Waak**, (970) 622-9676,

**[pat@suburbitat.org](mailto:pat@suburbitat.org)**

## **Environmental Management System (EMS) in EPA Region 8**

~ **Tim Rehder, EPA Region 8**

What is an EMS, you ask? Basically, it involves assessing your organization's activities that impact the environment, and implementing pollution prevention plans to reduce those impacts. It's a valuable tool for improving your organization's environmental performance, maintaining environmental compliance, and reducing operating costs.

The concept of EMS grew out of the manufacturing sector, and at first blush one might wonder how it relates to the Denver EPA office or the EPA lab in Golden: we don't manufacture anything except paperwork. However, consider these environmental impacts of our operations:

- 6.8 million kilowatt hours of electricity used annually. Roughly 6.8 million pounds of coal must be burnt to generate that amount of electricity, releasing 14 millions pounds of greenhouse gas and other pollutants.
- Tailpipe exhaust resulting from 350,000 miles driven by government fleet vehicles every year, plus vehicle miles racked up by employees commuting to and from work.
- Depletion of resources: annual consumption of roughly 1,500 cartons of paper.
- 3 ½ tons of electronic waste.
- Generation of solid waste, use of office supplies, water consumption, and use of toxic materials.

EPA Region 8 began EMS implementation in 2002. The first step was to draft a Region 8 EMS policy, which says that we will work towards sustainability by reducing our use of natural resources, and reducing our use of toxic substances. We then formed an ad hoc team to rank our activities in terms of environmental impact, and develop pollution prevention plans.

Our efforts are paying off. Region 8 is definitely improving its environmental performance. We added two hybrid vehicles to our fleet in the fall of 2004. In December of 2004, we purchased wind power certificates to cover 100% of the annual electricity use for the Denver office and the Golden lab. We held over 200 videoconferences last year. A recent survey of employees revealed that nearly two out of three commuted to work via mass transit over 100 times during the past year. All of our computers are programmed to go dormant after a period of inactivity, saving energy. The building that houses the Denver office has doubled its recycling rate since 2003 (currently above 40%). The Golden Lab has greatly reduced its water consumption by closely monitoring the irrigation of landscaping, and plans are in the works to replace a swath of thirsty bluegrass with xeriscape. Employees are also excited about the new building being constructed in lower downtown Denver to house the Region 8 office (see related article below).

EPA is still light years away from its sustainability goal. We've made little progress in reducing paper use, increasing use of alternative fuels, and decreasing our number of airline trips. But Rome wasn't built in a day, and EMS is all about continuous improvement. Visit our EMS web page at [www.epa.gov/region8/ems](http://www.epa.gov/region8/ems) to learn more of our efforts, or call the Region 8 EMS coordinator, **Tim Rehder**, at (303) 312-6293 or [rehder.timothy@epa.gov](mailto:rehder.timothy@epa.gov)

## **EPA Breaks Ground on New "Green" Building**

~ **Jody Ostendorf, EPA Region 8**

Construction is underway on the U.S. Environmental Protection Agency's environmentally friendly offices in Lower Downtown (Lodo) Denver. In true "walk-the-talk" form, the new home for nearly 900 regional EPA employees will embody sustainability principles consistent with the agency's mission to "protect human health and the environment." Move-in is scheduled for fall of 2006.

Located at 1595 Wynkoop Street in Denver's central business district, the \$70 million building will feature the city's first rooftop garden to cleanse stormwater and improve water quality, use 30 percent less energy than a typical office building, and optimize employee access to views and natural light. At street level, the building will resemble the historic brick architecture of

the area, while the full-height glass atrium will flood the nine-story workspace with sunlight.

The project will include 292,000 square feet of office and commercial space, and it is being designed to achieve a “Leadership in Energy and Environmental Design” (LEED) Silver Rating from the U.S. Green Building Council. This rating requires environmentally superior designing in five categories: Indoor Environmental Quality, Sustainable Sites, Water Efficiency, Energy and Atmosphere, and Materials and Resources.

Highlights of the building’s sustainable features include:

- A two-story lobby and full-height (nine-story) atrium to increase day lighting and reduce light energy loads.
- A "Double L" shape that features different window and material designs for the section of the building that faces sunward and the section facing windward, all geared toward cutting energy usage.
- An under-floor air distribution system that minimizes energy consumption while improving indoor air quality.
- A "green roof" featuring a garden of drought-tolerant plants. The roof will serve several roles: filtering and holding some stormwater, cooling roof temperatures, slowing both the loss of heat and cool air from the building, and improving air quality.
- Use of recycled products and environmentally certified wood products. Furniture will be made of low-VOC emitting materials with recycled content in the fabrics. Low-flow water fixtures will be used throughout the building.
- Location adjacent to several transit options, including the 16th Street Mall shuttle and the epicenter of the FasTracks transportation hub at Union Station, making it easier than ever for EPA personnel to leave their cars at home.
- A design for on-site energy generation including solar panels and, possibly, wind turbines.

Through the sustainable design of its workspace, and demonstration projects such as the green roof and solar panels, EPA Region 8 will bring cutting-edge technologies to its new neighborhood while maintaining the historic nature of Denver’s Lodo district.



*A view of EPA’s New “Green” Building as it will be seen along Denver’s 16th Street Mall*

## **A Holiday for Pollution Prevention ~ Marie Zanowick and Linda Walters, EPA Region 8**

The EPA Region 8 Pollution Prevention Team provided financial and technical support to the Holiday Neighborhood. This 27-acre “new urban” community is located in Boulder, CO. The Holiday Neighborhood land generated interest because it was the last major developable piece of land in the City of Boulder. This project is unique because:

- The Holiday Neighborhood will fit over 350 residences on its 27 acres.
- Forty percent of the housing units are reserved for permanently affordable housing.
- The homes, condos, townhomes, retail and commercial spaces were developed by five different developers and built by six contractors.
- The Holiday Neighborhood has a large co-housing development which has been designed, planned, and managed with a high degree of resident participation.

The Center for ReSource Conservation, in partnership with the City of Boulder’s Office of Environmental Affairs, recognized that the Holiday Neighborhood offered an opportunity to explore innovative efforts to

reduce the waste stream associated with typical construction projects. Construction waste recycling involves separating the waste materials generated from the construction of a building into recyclable and non-recyclable materials. The benefits of construction waste recycling are: 1) lower waste removal expense; 2) less waste going to local landfills and less waste of recyclable materials; 3) less in materials needed for the project; and 4) recyclable/reusable wood was separated and made available to the community.

As of December 2004, 50% of the Holiday Neighborhood's waste by volume has been recycled, including approximately 3,500 yards of wood and cardboard. Approximately 800,000 pounds of waste have been diverted from the landfill to recycling.

For more information, contact **Marie Zanowick** at (303) 312-6403 or [zanowick.marie@epa.gov](mailto:zanowick.marie@epa.gov)

### **"Last Child in the Woods -- Saving Our Children From Nature-Deficit Disorder"** ~ Book Review by Dr. Gene Reetz, EPA Region 8

In this recently published book by Richard Louv, he presents a very compelling thesis that children are increasingly disconnected from nature. This has profound negative effects on children as individuals, and society at large. Louv cites numerous studies documenting the psychological and physical benefits to children from direct participation with nature as well as the negative consequences of alienation from the natural world. The author concludes by making an eloquent plea for the critical need to re-connect children with nature. Many of you are involved in various efforts to protect wetlands and other natural areas, which is often motivated by the areas' ecological values. However, it may be that, ultimately, the greatest values of some of these natural areas are that they provide the opportunities for children to connect with nature. This may be especially true for wetlands and other natural areas in urban settings, even though these resources are often "degraded" and not "pristine," and therefore some question why such areas are of any value and should be protected.

### **Funding Opportunities**

#### **Patagonia Grants Program**

Proposals are accepted in August for grants from \$3,000 to \$8,000 for grassroots environmental work.

Go to [http://www.patagonia.com/enviro/grants\\_app.shtml](http://www.patagonia.com/enviro/grants_app.shtml)

### **The Directory of Watershed Resources**

This is an on-line, searchable database that allows users to search for federal, state, local and private watershed funding sources available for the development and implementation of watershed projects. See: <http://efc.boisestate.edu>

### **National Fish and Wildlife Foundation: 2005 Native Plant Conservation Initiative**

This initiative provides federal dollars to nonprofit organizations and government agencies to promote the conservation of native plants. There is a strong preference for "on-the-ground" projects that involve local communities and citizen volunteers in the restoration of native plant communities. Projects that include a pollinator conservation component are also encouraged. Grants range from \$5,000 to \$40,000 with an average grant size of \$15,000. The pre-proposal deadline is August 15, 2005. Application guidelines are available at:

<http://www.nfwf.org/programs/npci.htm>

### **Watershed Funding Opportunities**

A list of funding sources presented by Marc Alston, EPA Region 8 at the River Rally in May 2005 is available at:

<http://www.epa.gov/region8/naturalnews>

### **Conferences and Training**

#### **Colorado Watershed Assembly 6<sup>th</sup> Annual Conference**

The conference will be held on September 8-9, 2005 in Glenwood Springs in conjunction with the Non-Point Source Forum on Sept. 7. For more information, contact Elizabeth Mozer at (970) 484-3678 or

[Elizabeth@treeswaterpeople.org](mailto:Elizabeth@treeswaterpeople.org)

#### **The 16<sup>th</sup> Annual South Platte Forum**

"From the Headwaters Through the Urban Kidney to the State Line: This is a Hard-Working River", October 26-27, 2005, Radisson Conference Center, Longmont, CO. For more information contact Jennifer Brown at (402) 960-3670 or go to [www.southplatteforum.org](http://www.southplatteforum.org).

*"Anything else you're interested in is not going to happen if you can't breathe the air and drink the water. Don't sit this one out. Do something. You are by accident of fate alive at an absolutely critical moment in the history of our planet."*

~Carl Sagan

## **Western Wetland Conference: Collaboration across Boundaries**

The Western Wetland Conference, sponsored by EPA, will be held at the Denver Marriott West from October 24-26, 2005. Individuals and organizations interested in wetland functions, conservation, and protection are invited from across the 17-state western region. The conference will focus on successful approaches and strategies for overcoming wetland protection challenges which are unique to the west: water shortages and variability, limited regulatory protection, and lack of information. Three tracks highlight topics high priority topics across the region. Tracks are: *Strategies for Wetland Protection*; *Gathering and Using Information*; and *Water Availability*. For more information on registration, scholarships, etc., please visit: [www.mtwatercourse.org/www/index.htm](http://www.mtwatercourse.org/www/index.htm) or email [jkeigley@montana.edu](mailto:jkeigley@montana.edu)

## **Publications and Web Resources**

### **WaterNews**

WaterNews is a weekly on-line listserv that announces publications, funding opportunities, policies, and activities of the EPA's Office of Water. To subscribe:

Send an email message, leave the subject line blank, and address it to:

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### **Nonpoint Source Pollution from Forestry**

EPA recently published new National Management Measures to Control Nonpoint Source Pollution from Forestry, a technical guidance and reference document for use by State, Territory, and Tribal managers as well as the public. The new guidance contains information on the best available, economically achievable means of reducing nonpoint source pollution that can result from forestry activities. For more information about the guidance or to download the document (in PDF format) see: <http://www.epa.gov/owow/nps/forestrygmt/>.

Get a free copy by contacting the National Service Center for Environmental Publications via phone at 1-800-490-9198 or at [www.epa.gov/ncepihom](http://www.epa.gov/ncepihom) and requesting Publication # EPA 841-B-05-001.

## **Searchable Full-Text Electronic Version of Clean Water Act**

Go to our web site at [www.epa.gov/region8/naturalnews](http://www.epa.gov/region8/naturalnews) for this file.

## **Now On-line "Growth and Water Resources" Training Module**

An on-line, distance-learning training module called "Growth and Water Resources" has recently been posted on EPA's Watershed Academy Web at: <http://www.epa.gov/watertrain/smartgrowth/>. The module describes a combination of approaches to accommodate future growth in a way that benefits the economy and the environment and will help us meet our water resource goals. The module also includes a "tools" section with links to on-line resources. This training module was developed by EPA's Office of Wetlands, Oceans and Watersheds Smart Growth Team. For more information, please contact Jamal Kadri at [kadri.jamal@epa.gov](mailto:kadri.jamal@epa.gov).

EPA's Watershed Academy Web has over 50 modules on a wide variety of watershed management topics. Visit the Academy Web site at: <http://www.epa.gov/watertrain/>. The Academy also offers a Watershed Management Certificate program for visitors who complete 15 required modules.

## **EPA's National Water Quality Assessment Database Now On Web**

The Environmental Protection Agency's Office of Water has recently released the first-ever interactive database of state water quality assessment data, which provides the public with easy Web access to water quality information at the state and local levels. States are participating in an extensive review and approval of the 2002 data. The database may be viewed at: <http://www.epa.gov/305b/2002report/>

## **Path to Protection: Ten Strategies for Successful Source Water Protection**

Trust for Public Land (TPL) has created a report highlighting key source water protection actions identified by source water protection partners active at the local level, which is available for download at [http://www.tpl.org/tier3\\_cd.cfm?content\\_item\\_id=19077&folder\\_id=175](http://www.tpl.org/tier3_cd.cfm?content_item_id=19077&folder_id=175)

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**Current and archived copies of the newsletter are available at:**

**[www.epa.gov/region8/naturalnews](http://www.epa.gov/region8/naturalnews)**





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## Natural News

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If you have an article concerning ecosystem protection, community based environmental protection, or watersheds; we would like to hear from you!

**We need your help in updating our mailing list in order to keep Natural News coming to you! Please contact John DiPentino at (303) 312-6594 or [dipentino.john@epa.gov](mailto:dipentino.john@epa.gov), or write to him at the return address below.**

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Ecosystem Stewardship on the web: [http://www.epa.gov/region8/community\\_resources/steward/est.html](http://www.epa.gov/region8/community_resources/steward/est.html)

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